

IMPORTANT BIRD AND BIODIVERSITY AREAS IN INDIA

Priority sites for Conservation

Revised and updated 2nd Edition Vol. I



IMPORTANT BIRD AND BIODIVERSITY AREAS IN INDIA

Priority sites for conservation

**Second Edition: Revised and Updated
Volume I**

Asad R. Rahmani, M. Zafar-ul Islam and Raju M. Kasambe

Maps prepared by

Mohit Kalra and Noor I. Khan

Team Members

Noor I. Khan, Siddesh Surve, Abhijit Malekar and Nandkishor Dudhe

Significant Contribution to this edition

**Anwaruddin Choudhury, Arvind Mishra, Ajai Saxena, Dhananjai Mohan, Himmat Singh
Pawar, Intesar Suhail, Khursheed Ahmad, Neeraj Srivastava, P.O. Nameer, Manoj Nair,
Mrutyumjaya Rao, Praveen, J., Sanjeeva Pandey, S. Subramanya, Satya Prakash**

Editors

Gayatri Ugra and Maithreyi, M.R.

Layout and Design

V. Gopi Naidu

With major sponsorship from
Pavillion Foundation, Singapore

Recommended citation:

Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

© 2016 Authors.

Bombay Natural History Society,

Hornbill House, Shaheed Bhagat Singh Road, Mumbai-400001, INDIA.

Telephone: 0091-22-28429477 and 0091-22-22821811. Fax: 0091-22-22837615.

Email: info@bnhs.org; websites: www.bnhs.org and www.ibcn.in

Bombay Natural History Society in India is registered under Bombay Public Trust Act 1950: F244 (Bom) dated 06th July 1953.

ISBN: 978-93-84678-02-9

Cover Photographs: Design and collage by Gopi Naidu conceptualized by IBA Team.

First published: 2004 by IBCN: Bombay Natural History Society.

Second Revised Edition: 2016.

Printed by Akshata Arts Pvt Ltd. 22, A to Z Industrial Estate, G. Kadam Marg, Lower Parel, Mumbai 400 013. Published by the Bombay Natural History Society, Hornbill House, Shaheed Bhagat Singh Road, Mumbai 400 001.

Designed: V. Gopi Naidu.

Available from IBCN and BNHS website as given above.

Declaration:

This book is being uploaded on the IBCN website and the text can be used for educational purposes. The copyright of the photographs used in the book remains with the photographers as mentioned near each photograph and should not be used without their prior permission and consent.

Donations to BNHS are exempt under 80G and 35(1)(ii) of Income Tax Act, 1961.

The presentation of material in this book and geographical designations employed do not imply the expression of any opinion whatsoever on the part of IBCN and BNHS concerning the legal status of any state / country, territory or area, or concerning the delimitation of its frontiers or boundaries.

CHHATTISGARH

IN-CT



Nearly 45 per cent of Chhattisgarh's geographical area is covered under forest

Chhattisgarh, a state carved out of Madhya Pradesh, is located in central India. It is surrounded by Andhra Pradesh in the south, Jharkhand and Orissa in the east, Madhya Pradesh and Maharashtra in the west, and Uttar Pradesh and Jharkhand in the north. It is one of the most forested states of India, with about 44% land under forest cover. There are 16 districts in this State with Raipur as the capital. Chhattisgarh is very rich in natural resources, mainly minerals, power and forest products. A large amount of revenue comes from mining (bauxite, limestone, coal and iron ore) and forest products. The well-known Bailadila mines are in this State. The steel plants at Bhilai and cement factories generate sizeable revenues for the State.

The annual rainfall received by the State varies between 800 mm and 1,800 mm and the annual temperature ranges from 4 °C to 45 °C.

The total population of the State in 2001 was 20,795,956 (Census 2001) which jumped to 25,545,198 in 2011 (Census 2011). About 80% of the population was rural in 2001 which reduced to 76.75% in 2011. A large part (30.62%) of the State's population is tribal. The population density of the State is 189 persons per sq. km (Census 2011).

Vegetation

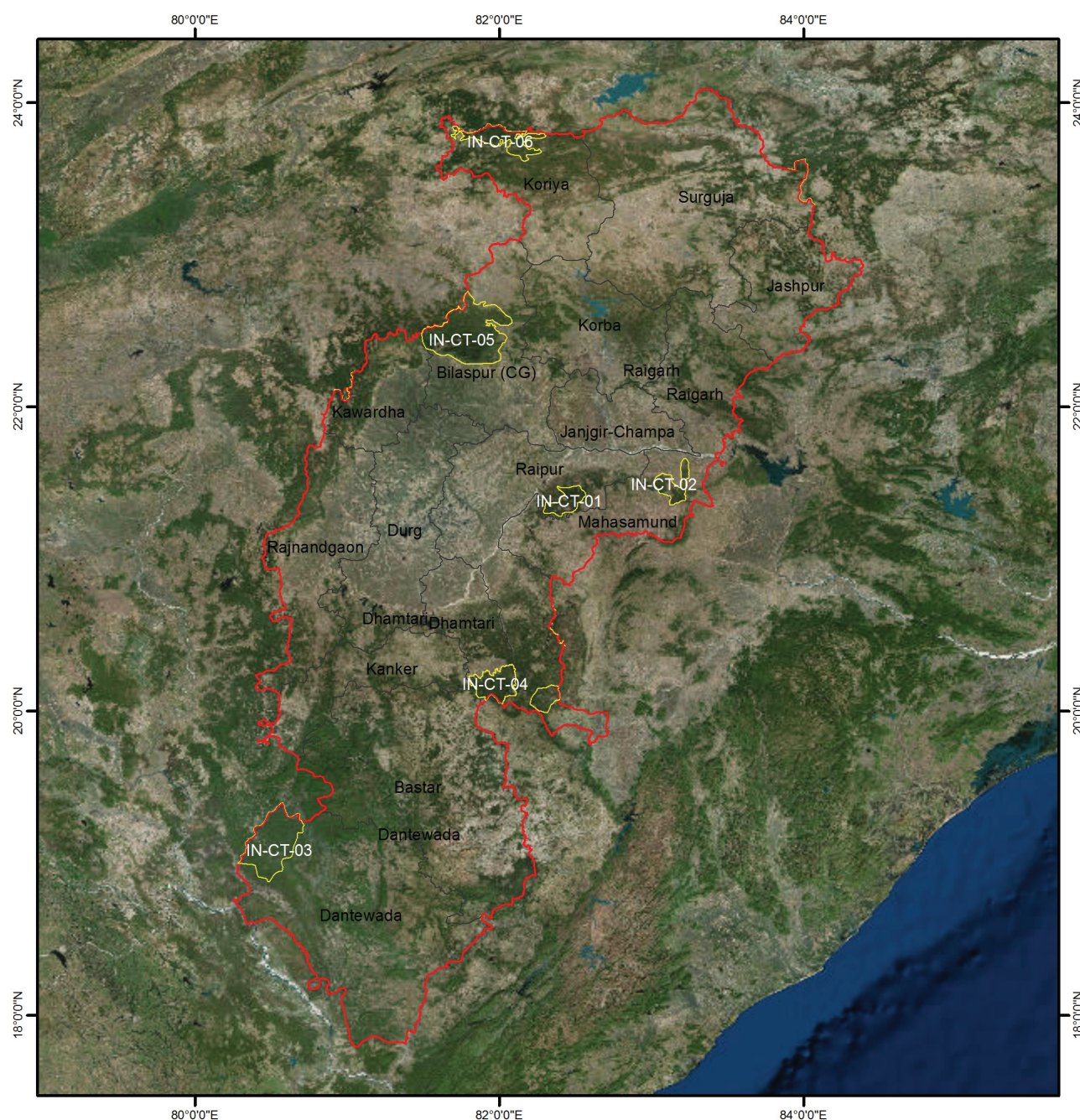
The total recorded forest area of Chhattisgarh is 59,772 sq. km as compared to 59,285 sq. km in 2001, which is

about 44.21% of the State's geographical area and 7.74% of the country's forest area (Ministry of Environment and Forests 2013). In the Forest Survey of India report of 2013, it is mentioned that the reserve forest is 40.4%, protected forest is 52.5% and unclassified forest is 7.1%. The dense forest is about 28.86%, open forest 12.28% and the non-forest 58.77% (Ministry of Environment and Forests 2013). The main districts of the State with forest cover are in the north and south. Dantewada in the south has 64.18% forest cover as compared to 68.35% in 2011, followed by Koriya 62.19% (61.58% in 2001) in the north, Bastar 53.37% (54.77% in 2001) and Korba 50.69%.

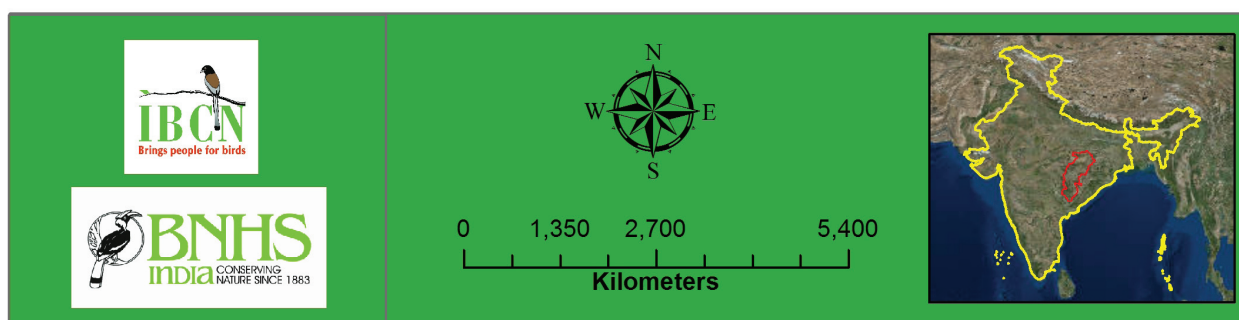
There are four major forest types, namely Tropical Moist Deciduous, Tropical Dry Deciduous, Tropical Thorn and Subtropical Broadleaf Hill Forests. Forests are largely distributed in the north and in the southern parts of the State. Teak and Sal are the two most important forest formations of the State (Ministry of Environment and Forests 1999, 2001).

Most of the large mammals of Central India such as the Tiger *Panthera tigris*, Leopard *P. pardus*, Gaur *Bos gaurus*, Sloth Bear *Melursus ursinus*, Chital *Axis axis*, Sambar *Cervus unicolor*, Nilgai *Boselaphus tragocamelus*, Four-horned Antelope *Tetracerus quadricornis*, Chinkara *Gazella bennettii*, Barking Deer or Indian Muntjak *Muntiacus muntjak* and Wild Boar *Sus scrofa* are found in

Important Bird Areas in Chhattisgarh



IN-CT



Chhattisgarh. Medium-sized carnivores are Striped Hyena *Hyaena hyaena*, Golden Jackal *Canis aureus*, Grey Wolf *C. lupus* and Dhole or Indian Wild Dog *Cuon alpinus*. Jungle Cat *Felis chaus* represents the small carnivores. Indian Rock Python *Python molurus* and Indian Cobra *Naja naja* are also found here. The Mouse Deer *Moschiola meminna* could be present, but there is no confirmed record. Not much is known about the reptilian and amphibian fauna of the State.

IBAs AND PROTECTED AREAS

The State falls under the Deccan Biogeographical Zone of Rodgers *et al.* (2000). Of its forests, 11% are under the Protected Area Network. There are three national parks and 11 wildlife sanctuaries. So far only the Indravati National Park has been declared as a Tiger Reserve. Of the three national parks, the Indravati National Park has been identified as an IBA on the basis of the threatened species and the biome criteria. Of the 11 wildlife sanctuaries, six are IBAs. The Udanti and the Sitanadi Wildlife Sanctuaries are merged as one IBA because they are contiguous.

The Indravati National Park was constituted as a tiger reserve in 1982-83. It is situated on the banks of the River Indravati and comprises Tropical Mixed Deciduous Forest interspersed with grasslands. These forests mainly have Teak and Sal. The threatened bird species of the Park are the White-rumped Vulture *Gyps bengalensis*, Long-billed Vulture *Gyps indicus* and Green Munia *Amandava formosa*.

AVIFAUNA

Not much work has been done on the avifauna of Chhattisgarh. The total number of bird species found in the State is not known. The State lies in Biome11 (Indo-Malayan Tropical Dry Zone) where the key habitats are Dry Deciduous Forest, Dry Evergreen Forest, Thorn Forest, Semi-Desert Scrub, Wooded Grassland, Secondary Grassland, Arable land and abandoned farmland. This is a huge biome, occurring in nearly 14 countries. In India, 59 bird species have been listed which represent this biome-assemblage of birds. The biome includes both forest and open country. Many of the species listed have adapted to human-modified habitats, so they have a wide distribution. As we do not have a detailed checklist, we do not know how many biome species are found here. But looking at the wide distribution of the Biome11 species, perhaps all of them are found in Chhattisgarh. Some of the key species of this biome are the Red-headed Vulture *Sarcogyps calvus* (Critically Endangered), White-eyed Buzzard *Butastur teesa*, Red-headed Falcon *Falco chicquera* (Near Threatened), Painted Spurfowl *Galloperdix lunulata*, Indian Peafowl *Pavo cristatus*, Plum-headed Parakeet *Psittacula cynocephala*, Indian Robin *Saxicoloides fulicata*, Rufous-fronted Prinia *Prinia buchanani* and Green Munia (Vulnerable).

In 1997, the Forest Owlet *Heteroglaux (Athene) blewitti* (Critically Endangered) was rediscovered in northwestern Maharashtra (King and Rasmussen 1998). This provided an impetus to search for it in its former distribution range, especially in areas where specimens were collected earlier. Busna-Phuljhar at the border of Chhattisgarh and Orissa



AKHILESH BHAROS

Low hills and valleys of the state provide conducive environment for development of Moist Deciduous, Dry Deciduous and Broadleaf Hills Forest and Tropical Thorn Forest. Teak and Sal are the two most important forest formations of the State

IBAs of Chhattisgarh

IBA site codes	IBA site names	IBA criteria
IN-CT-01	Barnawapara Wildlife Sanctuary	A1, A3
IN-CT-02	Gomarda Wildlife Sanctuary	A1, A3
IN-CT-03	Indravati National Park & Tiger Reserve	A1, A3
IN-CT-04	Udanti-Sitanadi Tiger Reserve	A1, A3
IN-CT-05	Achanakmar Tiger Reserve & Maniyari Reservoir	A1, A3
IN-CT-06	Guru Ghasidas Tiger Reserve	A1, A3

The following are the globally threatened and Near Threatened species found in the six IBAs:

LIST OF THREATENED BIRDS WITH IBA SITE CODES

CRITICALLY ENDANGERED		
White-rumped Vulture	<i>Gyps bengalensis</i>	IN-CT-01, 02, 03, 04, 05, 06,
Long-billed Vulture	<i>Gyps indicus</i>	IN-CT-01, 02, 03, 04, 05, 06
ENDANGERED		
Egyptian Vulture	<i>Neophron percnopterus</i>	IN-CT-06
Black-bellied Tern	<i>Sterna acuticauda</i>	IN-CT-06
VULNERABLE		
Asian Woollyneck	<i>Ciconia episcopus</i>	IN-CT-06
Lesser Adjutant	<i>Leptoptilos javanicus</i>	IN-CT-05
Greater Spotted Eagle	<i>Clanga clanga</i>	IN-CT-03 (?)
Green Munia	<i>Amandava formosa</i>	IN-CT-01, 02, 03, 04
NEAR THREATENED		
Oriental Darter	<i>Anhinga melanogaster</i>	IN-CT-06
Black-headed Ibis	<i>Threskiornis melanocephalus</i>	IN-CT-06
Grey-headed Fish-Eagle	<i>Ichthyophaga ichthyaetus</i>	IN-CT-01, 03, 06
Red-headed Falcon	<i>Falco chicquera</i>	IN-CT-06
River Tern	<i>Sterna aurantia</i>	IN-CT-06
Alexandrine Parakeet	<i>Psittacula eupatria</i>	IN-CT-06
Malabar Pied Hornbill	<i>Anthraceroceros coronatus</i>	IN-CT-04, 05, 06

was one of the localities from where a Forest Owlet specimen was collected (Hume 1873). In a survey funded by IBA-IBCN, Ishtiaq *et al.* (2001) visited the Barnawapara Wildlife Sanctuary, Udanti Wildlife Sanctuary, Gomarda Wildlife Sanctuary, Sirpur Reserve Forest, Singhoda Reserve Forest, and Singhpur Reserve Forest in Chhattisgarh and the Khariar range in the adjoining Orissa but could not locate any Forest Owlet despite playing its call at 36 different spots at the peak nesting season. The Khariar Forest from where a type specimen was collected could not be surveyed properly due to the insurgency problem. The habitat appears similar to other Forest Owlet sites. Negative results should not be taken as proof of absence (Ishtiaq and Rahmani 2000).

Once a detailed checklist of birds is made available, many more Vulnerable and Near Threatened species are likely to be identified from this State.

THREATS AND CONSERVATION ISSUES

Only six sites have been identified as IBAs and all of them are protected areas under the management of the Chhattisgarh Forest Department. All the IBAs have forest

villages in and around the protected areas that exert tremendous pressure on the forests.

Threats to IBAs

Human-animal Conflict: This conflict is common in all the six IBAs, especially involving Sloth Bear and Leopard.

Tourism: The sites are major attractions for tourists and pilgrims, resulting in much disturbance to wildlife by the movement of vehicles, noise, non-degradable garbage and forest fires.

Grazing, forest fires and collection of non-forest timber produce: Most of the areas have the problem of livestock grazing, which is too well-known to need elaboration here. Forest fires, mainly human-made, pose a threat to many IBAs. These fires are started to facilitate the collection of Mahua flowers and to obtain Tendu leaves. The locals are allowed to collect minor forest produce. Sal seeds and Tendu leaves are collected by villagers as minor forest produces. Unfortunately, the time of their collection coincides with the breeding season of most ground-nesting resident birds, and hence causes disturbance.

Poaching: Traditional hunting by tribals is prevalent in many sanctuaries. Motorized hunting in the night on numerous roads that crisscross the sanctuaries was once quite common but now is under control.

Mining and denotification threats: Chhattisgarh has many mineral resources. All the Protected Areas (PA) and IBAs are under constant threat of denotification and encroachment by mining lobby. The Supreme Court ruling against denotification of PAs without the approval of the National Board for Wildlife and Central Empowered Committee has reduced these threats but the danger remains. The strong and rich mining lobby influences the decisions of the politicians, who are sometimes not in favour of PAs.

Insurgency: Another problem of this State is insurgency, as a result of which most of the forests are at the mercy of these insurgent groups. The Forest Officials have not ventured into some of the PAs for years. These insurgent groups sometimes apparently join poachers and timber smugglers to loot the forest resources.

REFERENCES

- Census (2001) www.dataforall.org/dashboard/censusinfoindia_pca/ (as accessed in Dec. 2001).
- Census (2011) www.dataforall.org/dashboard/censusinfoindia_pca/ (as accessed in Dec. 2014).
- Hume, A.O. (1873) Novelties. *Stray Feathers* 1: 464–483.
- Ishtiaq, F. and Rahmani, A. R. (2000) Further information on the status and distribution of the Forest Owlet *Athene blewitti*. *Forktail* 16: 125–130.
- Ishtiaq, F., Bharos, A.M.K., Bharos, A.V.K., James, H. and Hedge, P. (2001) Survey for confirmation of the Forest Owlet sites and other proposed IBAs in Chhattisgarh State. Bombay Natural History Society, Mumbai. Pp. 8.
- King, B. and Rasmussen, P.C. (1998) The rediscovery of the Forest Owlet *Athene (Heteroglaux) blewitti*. *Forktail* 14: 51–53.
- Ministry of Environment and Forest (1999) State of Forest Report 1999. Forest Survey of India, Dehra Dun.
- Ministry of Environment and Forest (2001) State of Forest Report 2001. Forest Survey of India, Dehra Dun.
- Rodger, W.A., Panwar, H.S. and Mathur, V.B. (2000) *Wildlife Protected Area Network in India: A Review (Executive Summary)*. Wildlife Institute of India, Dehradun.
- Ministry of Environment and Forest (2013) State of Forest Report 2013. Forest Survey of India, Dehra Dun.

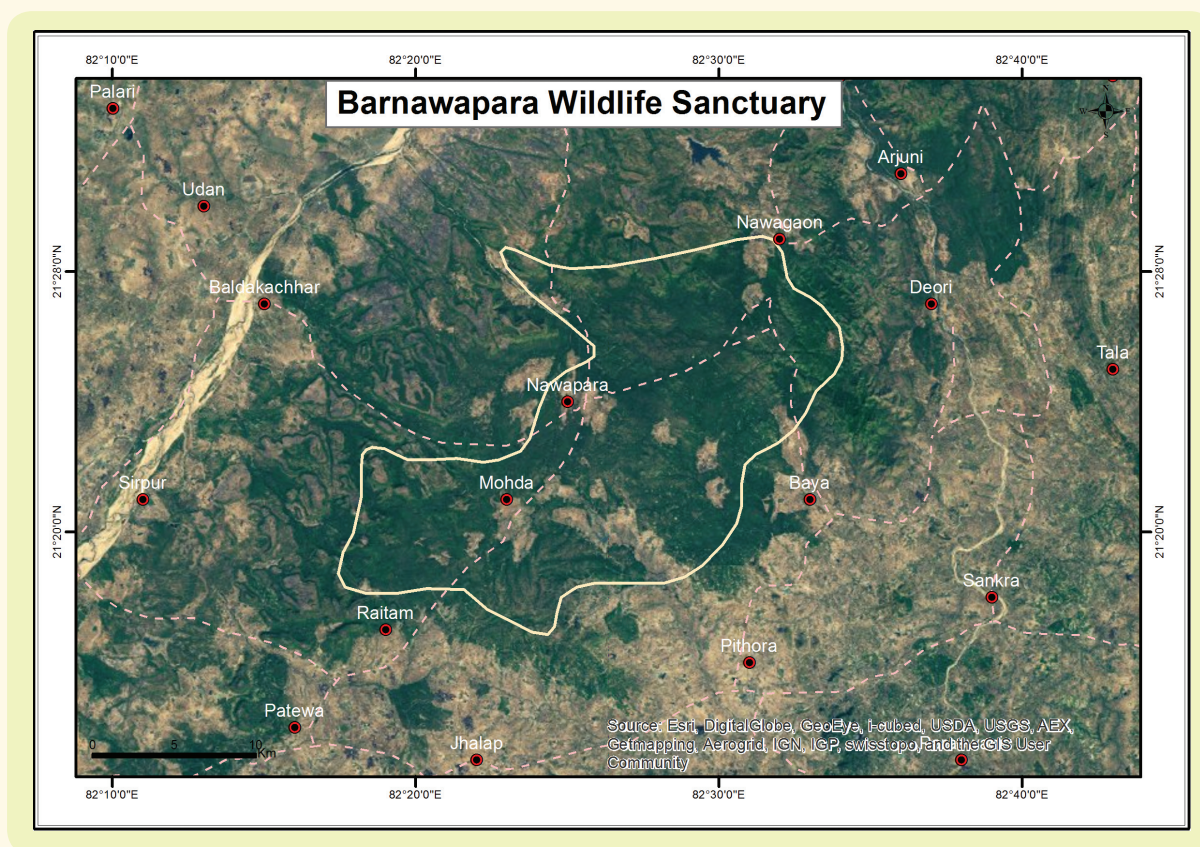
BARNAWAPARA WILDLIFE SANCTUARY

IN-CH-01

IBA Site Code	: IN-CH-01	Area	: 24,466 ha
State	: Chhattisgarh	Altitude	: 265–400 msl
District	: Raipur	Rainfall	: 1,000 mm
Coordinates	: 21° 25' 16" N, 82° 26' 36" E	Temperature	: 8 °C to 48 °C
Ownership	: State	Biogeographic Zone	: Deccan Peninsula
		Habitats	: Tropical Dry Deciduous Forest

IBA CRITERIA: A1 (Threatened species), A3 (Biome 11: Indo-Malayan Tropical Dry Zone)

PROTECTION STATUS: Wildlife Sanctuary, established in July 1976.



GENERAL DESCRIPTION

The Barnawapara Wildlife Sanctuary derives its name from Bar and Nawapara Forest valleys which are close to each other and situated in the middle of the sanctuary. The site comes under Raipur Forest Division, and includes the reserve forests in Lawan and Sonakhan Forest Ranges. It is situated 15 km north of the block headquarters Pithora on National Highway 6, 100 km from Raipur town, and is approachable in all seasons.

The proposal to increase the area of this PA/IBA has almost been finalized. From the existing 244 sq. km area, it may now become 522 sq. km. The extension will be on the northwest, west and northeast sides. The core area of this PA is under

consideration to be notified as an Eco-Sensitive Zone, where mining and tourism activities are proposed to be restricted.

The terrain is generally flat, with some hills varying from 265 to 400 m. There are numerous perennial and seasonal streams, all tributaries of the Mahanadi river. Summer is very hot, and most of these streams dry out. The Forest Department has created some waterholes, where most of the wildlife concentrates in summer.

The forest of this IBA can be classified according to Champion & Seth (1968) as Dry Teak, Dry Sal, and South Indian Dry Deciduous Mixed Forest. Teak *Tectona grandis* occurs mainly in schistose rock and in alluvial banks around rivers and streams (A.M.K. Bharos, *pers. comm.* 2002).

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

VULNERABLE

Green Munia	<i>Amandava formosa</i>
-------------	-------------------------

BIOME 11: INDO-MALAYAN TROPICAL DRY ZONE

Red-naped Ibis	<i>Pseudibis papillosa</i>
White-eyed Buzzard	<i>Butastur teesa</i>
Rain Quail	<i>Coturnix coromandelica</i>
Jungle Bush-quail	<i>Perdica asiatica</i>
Indian Peafowl	<i>Pavo cristatus</i>
Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
Yellow-legged Green-pigeon	<i>Treron phoenicoptera</i>
Plum-headed Parakeet	<i>Psittacula cyanocephala</i>
Indian Nightjar	<i>Caprimulgus asiaticus</i>
Indian Grey Hornbill	<i>Ocyrceros birostris</i>
Yellow-fronted Pied Woodpecker	<i>Dendrocopos mahrattensis</i>
Black-rumped Flameback	<i>Dinopium benghalense</i>
Black-headed Cuckooshrike	<i>Coracina melanoptera</i>
Small Minivet	<i>Pericrocotus cinnamomeus</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Jungle Babbler	<i>Turdoides striatus</i>
Jungle Prinia	<i>Prinia sylvatica</i>
Ashy Prinia	<i>Prinia socialis</i>
White-browed Fantail	<i>Rhipidura aureola</i>
Brahminy Starling	<i>Sturnus pagodarum</i>
Bank Myna	<i>Acridotheres ginginianus</i>
White-bellied Drongo	<i>Dicrurus caerulescens</i>

The important teak areas are on the Tenduchua hills. Sal *Shorea robusta* forest occurs mainly around village Gidpuri. Mixed forest areas harbour Bamboo *Dendrocalamus strictus*, *Terminalia* sp. and other species.

AVIFAUNA

More than 110 bird species have been recorded (A.M.K. Bharos, pers. comm. 2003). If we include sightings from the proposed areas which have many wetlands, the total number of bird species would be about 220. This doubling of the bird species diversity is mainly due to wetland and waterbirds.

The site lies in Biome 11 representing Indo-Malayan Tropical Dry Zone and therefore its typical bird species are found here. Besides the two Critically Endangered vulture species, White-rumped *Gyps bengalensis* and Long-billed *Gyps indicus*, this IBA site has the Vulnerable Green Munia *Amandava formosa*. Lesser Kestrel *Falco naumanni* is also reported in winter. Out of the 59 Biome 11 species listed by BirdLife International, 25 have been seen here. Most of them are quite common and widespread. This site was selected as an IBA mainly for the Green Munia, which is under tremendous threat from habitat destruction and trapping (BirdLife International 2001; Rajat Bhargava, pers. comm. 2002). A small nesting colony of White-rumped Vulture *Gyps bengalensis*, with 4 active nests, was located in 2001. The population is estimated to be 18 near Rampur village, and there could be more in other parts of the sanctuary. The Near Threatened Grey-headed Fish-eagle *Ichthyophaga ichthyaeetus* is also found near streams.



Barna and Nawapara valleys are lush green and habitat for large number of bird species

All species of vultures recorded earlier are now very rarely seen. The traditional nesting site at Rampur no longer has White-rumped Vultures, and the same is the case with the Red-headed Vulture around Bar area, though there are stray sightings from the fringes. In 2012, a Brown Wood-owl *Strix leptogrammica* was recorded in Saktighat area.

Overall this IBA is in a healthy condition, in general the avifauna and other wildlife are safe, and some species have even shown an increase in population.

OTHER KEY FAUNA

Barnawapara has the typical biodiversity of central Indian Dry Deciduous Forest, with its complement of well-known large mammals such as the Tiger *Panthera tigris*, Leopard *P. pardus*, Gaur *Bos gaurus*, Sloth Bear *Melursus ursinus*, Chital *Axis axis*, Sambar *Rusa unicolor*, Nilgai *Boselaphus tragocamelus*, Four-horned Antelope *Tetracerus quadricornis*, Chinkara *Gazella bennettii*, Barking Deer or Indian Muntjak *Muntiacus muntjak*, and Wild Boar *Sus scrofa*. This area is famous for its population of Gaur. Medium sized carnivores are Striped Hyaena *Hyaena hyaena*, Golden Jackal *Canis aureus*, Gray Wolf *Canis lupus*, and Indian Wild Dog *Cuon alpinus*. Jungle Cat *Felis chaus* represents the small carnivores. Not much work has been done on reptiles, but Indian Python *Python molurus* and Indian Cobra *Naja naja* are found here.

In 2012, the Indian Giant Squirrel *Ratufa indica* was sighted in the proposed extension area called Deopur Hills. This arboreal species was not reported from this area earlier.

LAND USE

- Nature conservation and research
- Human settlement
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Livestock grazing
- Man-animal conflicts

- Disturbance created by villagers, tourists, and pilgrims
- Forest fires

There are 25 forest villages inside the sanctuary, of which 10 are located in the area presently under the management of the State Forest Development Corporation.

Three villages, namely Latadadar, Bar, and Rampur have already been translocated outside the PA area, and six more villages are likely to be shifted soon: the process is on. Their total human population was about 7,000 (Tiwari 1997) which could have decreased a little due to shifting of these three villages. The livestock number about 8,500, and share the forest and its produce with wildlife, resulting in disturbance to the natural ecosystems. Man-animal conflict is common, especially involving Sloth Bear and Leopard. The site is a major attraction for tourists and pilgrims, who further deteriorate the conditions. Forest fires, mainly man-made, also pose a threat to the site. These fires are started to facilitate the collection of Mahua flowers and to obtain Tendu leaves. Locals are allowed to collect minor forest produce. Sal seeds and Tendu leaves are collected from all over the sanctuary. Unfortunately, the time of their collection coincides with the breeding season of many resident birds, and causes disturbance. Traditional hunting by tribals, prevalent in many other sanctuaries, is not a big problem here. Motorized hunting at night was quite common on the numerous roads that crisscross this sanctuary before it was declared in 1976, but now this problem is under control.

KEY CONTRIBUTOR

A.M.K. Bharos.

KEY REFERENCES

- BirdLife International (2001) *Threatened Birds of Asia. The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Champion, H.G. and Seth, S.K. (1968) *A revised survey of forest types of India*. Govt. of India Press, Delhi. Pp. 403.
- Tiwari, S.K. (1997) *Wildlife Sanctuaries of Madhya Pradesh*. APH Publishing Corporation, New Delhi.

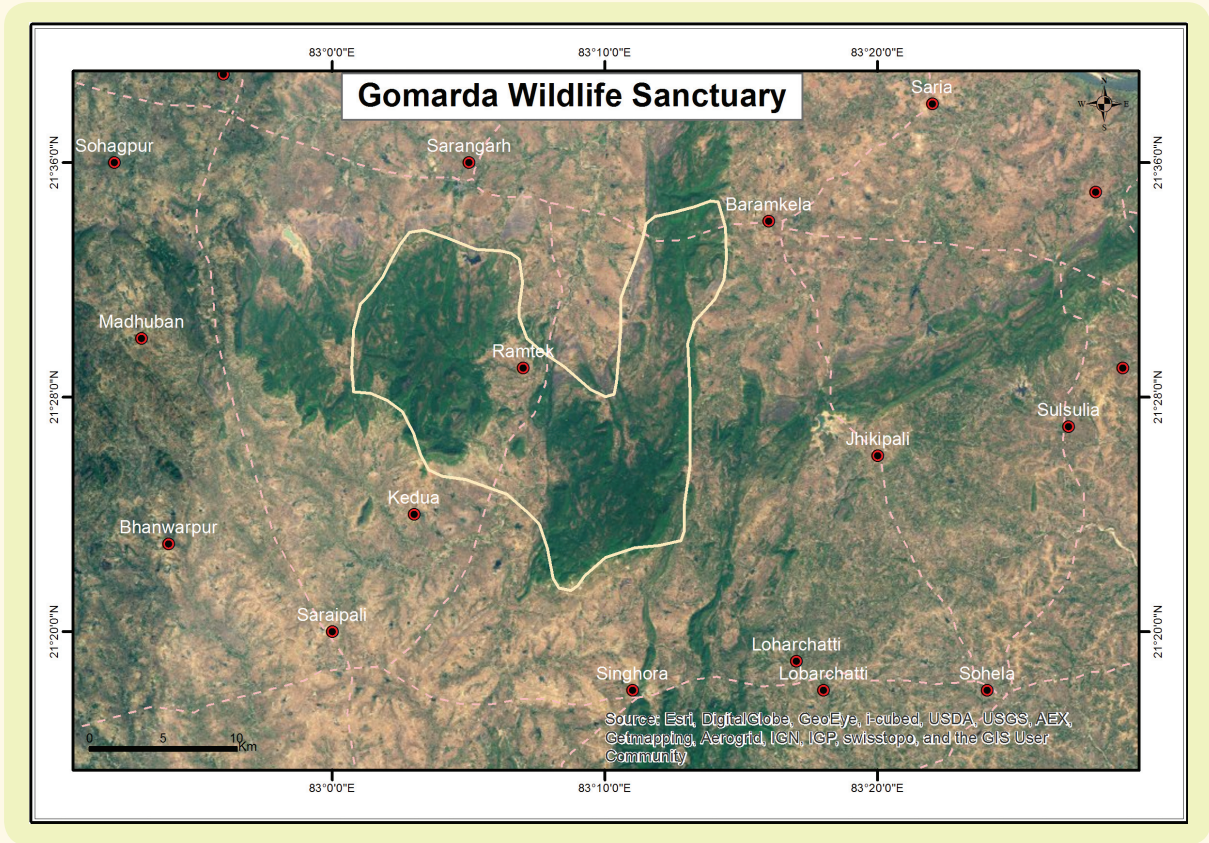
GOMARDA WILDLIFE SANCTUARY

IN-CH-02

IBA Site Code	: IN-CH-02	Area	: 27,791 ha
State	: Chhattisgarh	Altitude	: 400 msl
District	: Raipur	Rainfall	: 1,100 mm
Coordinates	: 21° 30' 24" N, 83° 06' 47" E	Temperature	: 8 °C to 48 °C
Ownership	: State	Biogeographic Zone	: Deccan Peninsula
		Habitats	: Tropical Dry Deciduous Forest

IBA CRITERIA: A1 (Threatened species), A3 (Biome 11: Indo-Malayan Tropical Dry Zone)

PROTECTION STATUS: Wildlife Sanctuary, established in August 1975.



GENERAL DESCRIPTION

The Gomarda Wildlife Sanctuary derives its name from the village Gomarda in Sarangarh *tehsil* of Raipur district. The sanctuary lies 15 km south of Sarangarh on the Raigarh-Sarangarh-Saraipali state highway, which bisects the sanctuary.

The terrain is gently undulating, with numerous boulders and rocks, unfit for cultivation, and hence naturally protected. The main water source is the perennial Lath *nullah* (stream) and two medium sized tanks.

The vegetation is typical Tropical Dry Deciduous forest with Teak *Tectona grandis*, Bamboo *Dendrocalamus strictus*, *Terminalia* sp., and other species. The forest was

under tremendous pressure from lopping and earlier from commercial clear felling and selective cutting. Since the establishment of the sanctuary, such pressures have been reduced. Nevertheless, the vegetation needs respite from further biotic pressure.

AVIFAUNA

More than 100 bird species have been recorded (A.M.K. Bharos, *pers. comm.* 2003). The site lies in Biome 11 and therefore, bird species representing Indo-Malayan Tropical Dry Zone are found. The main species of conservation concern is the Green Munia *Amandava formosa*, which is endemic to India and is decreasing in numbers due to

habitat destruction and illegal trapping for trade (BirdLife International 2001; Rajat Bhargava, *pers. comm.* 2003). Gomarda lies within the main distribution range of the Green Munia, so it could be one of the most important sites for long-term conservation of this globally threatened species.

The vulture population has further declined during the last ten years and *Gyps* species are rarely seen. Nor is the Red-headed Vulture.

Out of the 59 species listed in Biome 11 that are found in India, 27 species have been recorded till now from this IBA site. In the nearby Sarangarh tank, waterbirds are said to be present in large numbers, but authentic information is not available.

OTHER KEY FAUNA

Like any typical protected area in central India, Gomarda WLS has Tiger *Panthera tigris*, Leopard *P. pardus*, Gaur *Bos gaurus* Spotted Deer or Chital *Axis axis*, Sambar *Cervus unicolor*, Barking Deer *Muntiacus muntjak*, Nilgai *Boselaphus tragocamelus*, Four-horned Antelope *Tetracerus quadricornis*, and Wild Boar *Sus scrofa*. The Mouse Deer *Moschiola indica* could be present, but there is no confirmed record. Jungle Cat *Felis chaus*, Golden Jackal *Canis aureus*, and Striped Hyaena *Hyaena hyaena* are also found. There are records of Grey Wolf *Canis lupus*, especially on the outskirts of the sanctuary near human habitation and in open areas. There would be many more smaller carnivores, but no study has been done.

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

VULNERABLE

Green Munia	<i>Amandava formosa</i>
-------------	-------------------------

BIOME-11: INDO-MALAYAN TROPICAL DRY ZONE

Red-naped Ibis	<i>Pseudibis papillosa</i>
White-eyed Buzzard	<i>Butastur teesa</i>
Rain Quail	<i>Coturnix coromandelica</i>
Jungle Bush-quail	<i>Perdicula asiatica</i>
Indian Peafowl	<i>Pavo cristatus</i>
Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
Yellow-legged Green-pigeon	<i>Treron phoenicoptera</i>
Plum-headed Parakeet	<i>Psittacula cyanocephala</i>
Sirkeer Malkoha	<i>Phaenicophaeus leschenaultii</i>
Indian Nightjar	<i>Caprimulgus asiaticus</i>
Indian Grey Hornbill	<i>Ocyrceros birostris</i>
Yellow-fronted Pied Woodpecker	<i>Dendrocopos mahrattensis</i>
Black-rumped Flambeback	<i>Dinopium benghalense</i>
Black-headed Cuckooshrike	<i>Coracina melanoptera</i>
Small Minivet	<i>Pericrocotus cinnamomeus</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Indian Robin	<i>Saxicoloides fulicatus</i>
Jungle Babbler	<i>Turdoides striatus</i>
Jungle Prinia	<i>Prinia sylvatica</i>
Ashy Prinia	<i>Prinia socialis</i>
White-browed Fantail	<i>Rhipidura aureola</i>
Brahminy Starling	<i>Sturnus pagodarum</i>
Bank Myna	<i>Acridotheres ginginianus</i>
White-bellied Drongo	<i>Dicrurus caerulescens</i>



The main water source of the sanctuary at perennial Lath stream and two medium sized tanks. In summer most of the wildlife is concentrated near them



AKHILESH BHAROS

In summer the tropical dry deciduous forest of Gomarda becomes extremely dry. Frequent fires destroy the under story. Overgrazing is also a big problem of this IBA

Overall the condition of this IBA has not deteriorated during the last 10 years since the first edition of this book was published in 2004.

LAND USE

- Nature conservation and research
- Human settlement
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Human settlements
- Livestock grazing
- Firewood collection
- Man-animal conflicts
- Disturbance created by villagers, tourists, and pilgrims
- Forest fires

There are six villages within and 24 villages around the sanctuary, with a human population of more than 7,000 and more than 10,000 cattle, which compete with wildlife to share the limited forest resources. Villagers are allowed to collect minor forest produce such as Tendu leaves, honey, fallen timber, grass, and medicinal plants. Beside this, head loads of wood are allowed 'for personal consumption', but most of this wood lands up in the market. Over-grazing by cattle is the main problem, and needs to be stopped, at least in some identified core areas. Villagers start fires to facilitate the collection of fallen Mahua flowers, which become visible on the dark burnt ground. These fires are set during April-May,

the main breeding time for ground-nesting birds such as the Red Junglefowl *Gallus gallus*, Painted Spurfowl *Galloperdix lunulata*, Grey Francolin *Francolinus pondicerianus*, and quails (*Coturnix* spp., *Perdicula* spp.).

Crop damage by ungulates is quite common, especially in forest villages. Killing of livestock by Leopard and Tiger creates resentment among the villagers, most of whom are very poor. Cattle kill compensation should be implemented at the earliest to minimize their antagonism.

Poaching is still a problem at the periphery of the sanctuary, which is completely surrounded by human habitation. When the animals go out in search of food, they fall into traps and snares. This problem could be minimized if free grazing by cattle is stopped, so that wild ungulates have more food inside the sanctuary.

The possibility of shifting the six forest villages should be explored. It would be good for both the wildlife and the poor villagers who live a pathetic life without medical, educational, transport, and other facilities. However, translocation should be done only with their active consent and by providing them good cultivable land and alternative livelihoods.

KEY CONTRIBUTOR

A.M.K. Bharos

KEY REFERENCE

BirdLife International (2001) *Threatened Birds of Asia. The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.

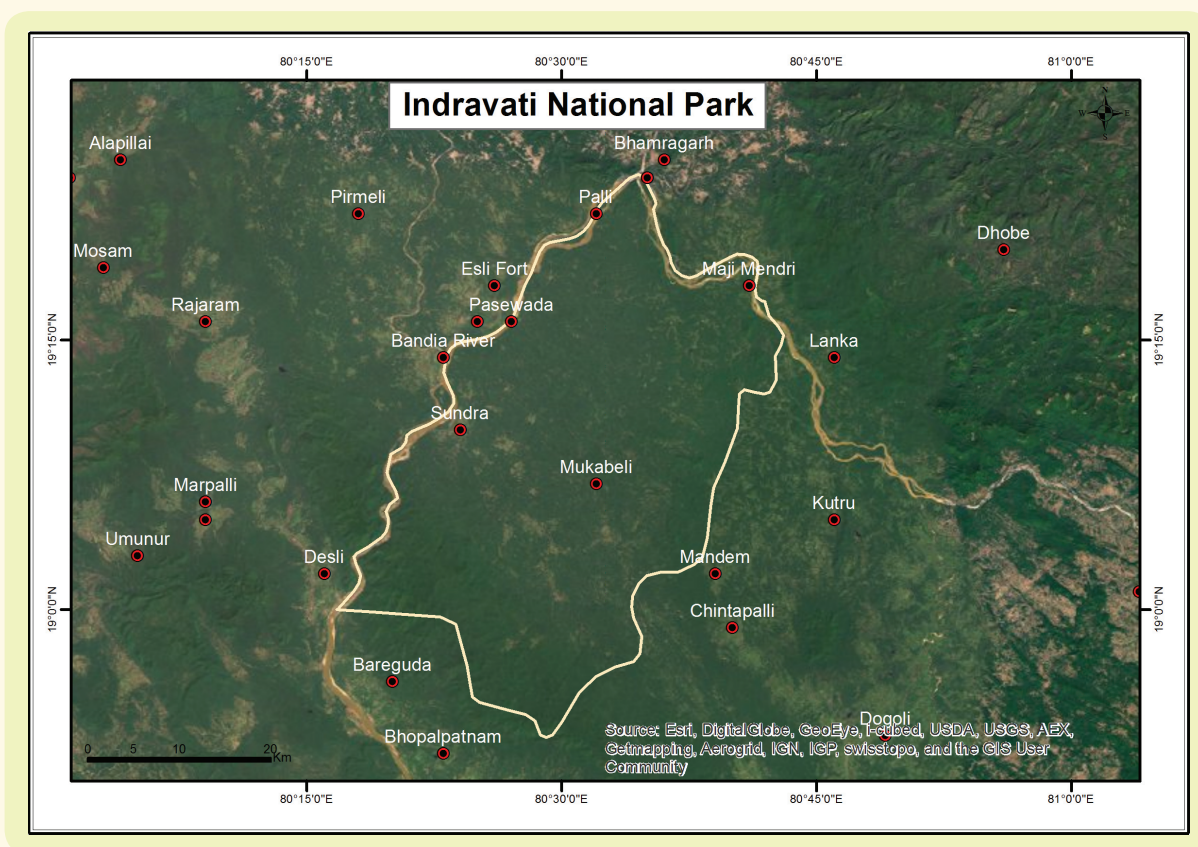
INDRAVATI NATIONAL PARK AND TIGER RESERVE

IN-CH-03

IBA Site Code	: IN-CH-03	Area	: 125,837 ha
State	: Chhattisgarh	Altitude	: 607–2,110 msl
District	: Dantewada, Bastar	Rainfall	: 950 mm
Coordinates	: 19° 06' 39" N, 80° 29' 20" E	Temperature	: 8 °C to 48 °C
Ownership	: State	Biogeographic Zone	: Deccan Peninsula
		Habitats	: Tropical Dry Deciduous Forest

IBA CRITERIA: A1 (Threatened species), A3 (Biome 11: Indo-Malayan Tropical Dry Zone)

PROTECTION STATUS: National Park, established in 1982. Declared Tiger Reserve in 1983



GENERAL DESCRIPTION

The Indravati National Park derives its name from the River Indravati which flows through the park area and is its lifeline. This park is located in Dantewada district, which has been carved out of the erstwhile Bastar district. The national park was notified in 1978 and declared as a Tiger Reserve in 1983. It is situated 168 km from Jagdalpur and 468 km from Raipur, the capital of Chhattisgarh. The forest forms the catchment area of the Indravati, hence it is extremely important to protect it from further anthropogenic ravages.

Teak *Tectona grandis* mixed with bamboo is dominant in the national park. Based on the classification of Champion

& Seth (1968), three major forest types are recognized in Indravati: Moist Mixed Deciduous Forest with Teak, Moist Mixed Deciduous Forest without Teak, and Southern Dry Mixed Deciduous Forest. The mixed deciduous forests at the foot and lower slopes of the hills include *Adina cordifolia*, *Anogeissus latifolia*, *Bombax ceiba*, *Boswellia glabra*, *Cassia fistula*, *Gmelina arborea*, *Semecarpus anacardium*, *Shorea robusta*, and *Tectona grandis*. Most trees shed their leaves by mid-February, but there are a few evergreens, notably *Cipadessa baccifera*, *Linociera ramiflora*, and *Mallotus philippensis*. Evergreen forests occur in the Kangar Valley, Darba, Kutamsar, and along the upper slopes of Bailadila. The vegetation here is dense with trees such as *Celtis*

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyp bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

VULNERABLE

Green Munia	<i>Amandava formosa</i>
-------------	-------------------------

NEAR THREATENED

Grey-headed Fish-eagle	<i>Ichthyophaga ichthyaetus</i>
------------------------	---------------------------------

BIOME 11: INDO-MALAYAN TROPICAL DRY ZONE

Black Ibis	<i>Pseudibis papillosa</i>
White-eyed Buzzard	<i>Butastur teesa</i>
Rain Quail	<i>Coturnix coromandelica</i>
Jungle Bush-quail	<i>Perdica asiatica</i>
Indian Peafowl	<i>Pavo cristatus</i>
Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
Yellow-legged Green-pigeon	<i>Treron phoenicoptera</i>
Plum-headed Parakeet	<i>Psittacula cyanocephala</i>
Sirkeer Malkoha	<i>Phaenicophaeus leschenaultii</i>
Common Indian Nightjar	<i>Caprimulgus asiaticus</i>
Indian Grey Hornbill	<i>Ocyrceros birostris</i>
Yellow-fronted Pied Woodpecker	<i>Dendrocopos mahrattensis</i>
Black-rumped Flameback	<i>Dinopium benghalense</i>
Black-headed Cuckooshrike	<i>Coracina melanoptera</i>
Small Minivet	<i>Pericrocotus cinnamomeus</i>
White-bellied Minivet	<i>Pericrocotus erythropygius</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Jungle Babbler	<i>Turdoides striatus</i>
Jungle Prinia	<i>Prinia sylvatica</i>
Ashy Prinia	<i>Prinia socialis</i>
White-browed Fantail	<i>Rhipidura aureola</i>
Brahminy Starling	<i>Sturnus pagodarum</i>
Bank Myna	<i>Acridotheres ginginianus</i>
White-bellied Drongo	<i>Dicrurus caeruleus</i>

cinnamomea, *Callicarpa arborea*, *Eurya japonica*, *Symplocos laurina*, *Wendlandia heynei*, and *W. gamblei*.

AVIFAUNA

Detailed studies on avifauna have not been done, but A.M.K. Bharos (*pers. comm.* 2003) during various visits identified more than 125 bird species. The site lies in Biome 11 representing Indo-Malayan Tropical Dry Zone. Among the Red Data Book (RDB) species, the two Critically Endangered *Gyps* vultures, White-rumped *Gyp bengalensis* and Long-billed *Gyps indicus*, and Green Munia *Amandava formosa* are present. There is an unconfirmed record of the Vulnerable Greater Spotted Eagle *Clanga clanga*. The Near Threatened Grey-headed Fish-eagle *Ichthyophaga ichthyaetus* is found around perennial forest streams and rivers.

In August 2013, a congregation of 35 White-rumped Vultures was photographed in this PA. The flock remained for a few days and then moved away. As the infested by Maoist insurgents, it has become difficult to carry out surveys here.

OTHER KEY FAUNA

The central Indian population of the globally Endangered Wild Buffalo *Bubalus arnee* (= *bubalis*) is found in Indravati (apart from Pamed and Udanti Sanctuaries). The common herbivore community comprises Chital *Axis axis*, Sambar *Cervus unicolor*, Nilgai *Boselaphus tragocamelus*, Four-horned Antelope *Tetracerus quadricornis*, Chinkara *Gazella bennettii*, Barking Deer or Indian Muntjak *Muntiacus muntjak*, and Gaur *Bos gaurus*. Tiger *Panthera tigris* and Leopard *P. pardus* are the top carnivores present in Indravati National Park. Other important mammals include the Jungle Cat *Felis chaus*, Striped Hyaena *Hyaena hyaena*, Golden Jackal *Canis aureus*, Grey Wolf *C. lupus*, Indian Wild Dog *Cuon alpinus*, Sloth Bear *Melursus ursinus*, and Wild Boar *Sus scrofa*. Krait *Bungarus caeruleus*, Indian Rock Python *Python molurus*, and Indian Cobra *Naja naja* are the most common reptiles sighted here.

The Wild Buffalo population is estimated at around 35 heads. They keep on moving along River Indravati and enter the Sironcha district of Maharashtra state, where they have been repeatedly sighted. The Tiger population has probably increased, though no one knows for sure. In 2012, five tigers including two young cubs were seen on the road by locals and forest staff. Overall, the status of this IBA/PA has remained the same in the last ten years. Not many tourists visit the area due to fear of insurgents.

LAND USE

- Nature conservation and research
- Human settlement
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Livestock grazing
- Human settlements
- Man-animal conflicts
- Disturbance by villagers
- Forest fires

The Wild Buffalo is the most important mammal of this Park. The Forest Department claims having counted 44 individuals, but others say that this is a highly exaggerated figure. Even a population of 44 individuals is too low for any species to survive. Unfortunately, the Government of India has not given enough attention to preserve the gene pool of this highly useful mammal. Perhaps the only pure Wild Buffalo stock in the world is found in Indravati National Park. Every attempt should be made to protect and conserve this species, even if it involves spending millions of rupees.

Another important issue, which will have great impact on the Wild Buffalo habitat, is the plan to construct at least seven hydroelectric projects across the Indravati river. They are Bodhghat, Indra Sarovar, Bhopalpatnam, Inchampalli,



Pure stock of Wild Buffalo *Babulus arnee* is found in Indravati NP

Kutru I and Kutru II, Nagur I and Nagur II. Not only will these dams submerge vast tracts of forest, they will also displace thousands of tribals who will be forced to shift to the Tiger Reserve, especially near water sources which are the main habitat of the Wild Buffalo. Man-animal conflict is bound to increase.

The Inchampalli Hydroelectric Dam project is proposed on the border area of Maharashtra, Telangana, and Chhattisgarh states. About 40,000 ha of forest would be clear-felled and 100 villages would be shifted. The proposed site of the dam is near village Somnur in Maharashtra on the confluence of the Indravati and Godavari rivers. This project would require forest land from Indravati Tiger Reserve. Most of the villagers are opposed to the projects as they would disrupt their lifestyle and submerge fertile agricultural land.

Indravati NP also suffers from Naxalite (Maoist) insurgency, as a result of which forest officials have not been able to move freely in the park. Poaching by tribals is rampant, even small birds are not spared. Sometimes, gangs of poachers dealing with wildlife products (tiger and leopard skins, antlers) involve these tribals in the killing of animals. As the area lies at the border of three states, poachers and smugglers have a free run of the park, while officers are embroiled in sorting out administrative details!

KEY CONTRIBUTORS

A.M.K. Bharos, Kishore Rithe.

KEY REFERENCE

Champion, H.G. and Seth, S.K. (1968) *A revised survey of forest types of India*. Govt. of India Press, Delhi.

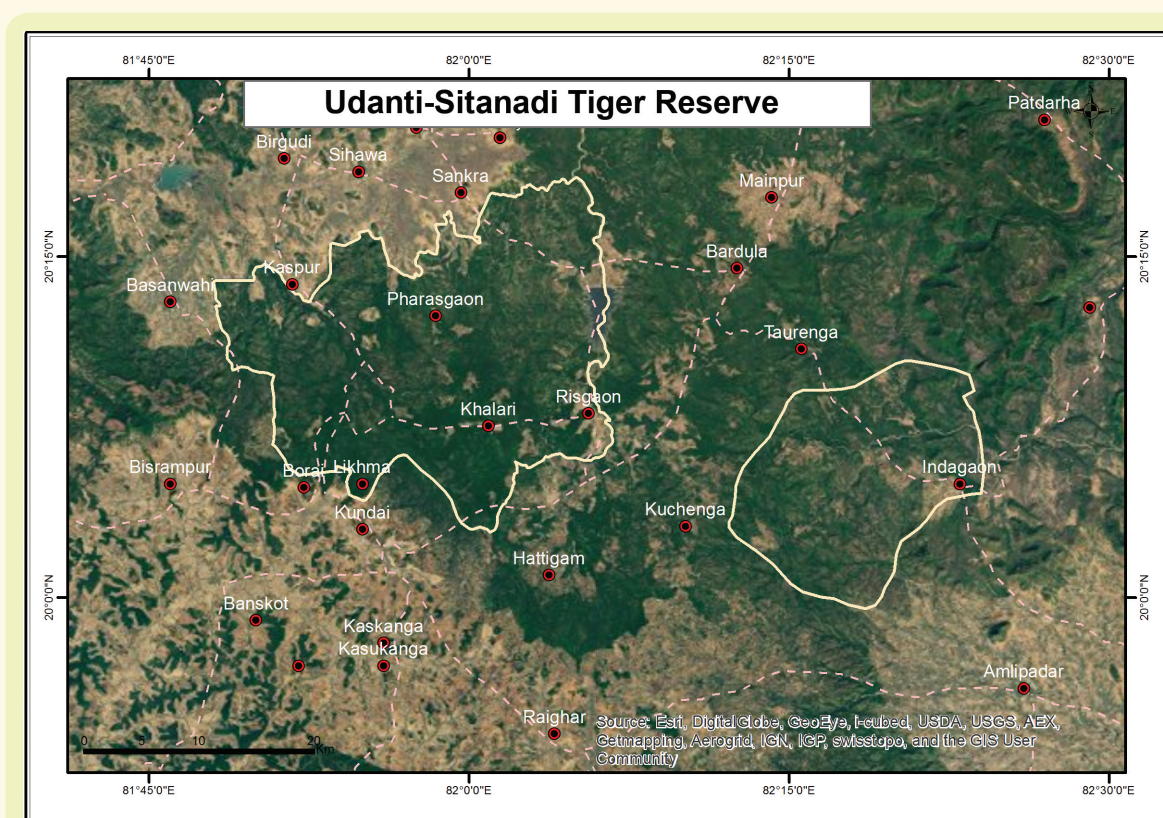
UDANTI-SITANADI TIGER RESERVE

IN-CH-04

IBA Site Code	: IN-CH-04	Area	: 80,096 ha
State	: Chhattisgarh	Altitude	: 327–736 msl
District	: Raipur, Dhamtari	Rainfall	: 850 mm
Coordinates	: 20° 10' 00" N, 82° 04' 30" E	Temperature	: 8 °C to 48 °C
Ownership	: State	Biogeographic Zone	: Deccan Peninsula
		Habitats	: Tropical Dry Deciduous Forest

IBA CRITERIA: A1 (Threatened species), A3 (Biome 11: Indo-Malayan Tropical Dry Zone)

PROTECTION STATUS: Sitanadi Wildlife Sanctuary, established in November 1974; Udanti Wildlife Sanctuary, established in March 1983. Now combined & notified as a Tiger Reserve with an area of 1,84,254 ha



GENERAL DESCRIPTION

Udanti-Sitanadi Tiger Reserve was notified by combining the two wildlife sanctuaries with an additional buffer area of 99145 ha. The Udanti (25,777 ha) and Sitanadi (57,532 ha) Wildlife Sanctuaries derive their name from the Udanti and Sitanadi rivers which flow through the respective sanctuaries and form the lifeline of this IBA. They are located in the Brindanawagarh *tehsil* of Raipur district, and Sihawa-Nagri *tehsil* of Dhamtari district respectively. Udanti WLS is situated 210 km and Sitanadi WLS 175 km southeast of Raipur. The eastern boundary of Udanti Sanctuary is the interstate boundary between Chhattisgarh

and Odisha. The distance between the two sanctuaries is about 30 km, with a corridor of good forest cover. Both these sanctuaries form a contiguous forest for free movement of wildlife, particularly the Wild Buffalo *Bubalus arnee* (= *bubalis*) which is the State Mammal. As they are close to each other, and the bird fauna is very similar, we consider them as one IBA.

The forest types are Dry Tropical Peninsular Sal Forest and Southern Tropical Dry Deciduous Mixed Forest. The dominant species is Sal *Shorea robusta*, mixed with species of *Terminalia*, *Anogeissus*, *Pterocarpus*, and Bamboo. Teak *Tectona grandis* is also found. In Udanti, Sal forest covers

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

VULNERABLE

Green Munia	<i>Amandava formosa</i>
-------------	-------------------------

NEAR THREATENED

Malabar Pied Hornbill	<i>Anthracoceros coronatus</i>
-----------------------	--------------------------------

BIOME 11: INDO-MALAYAN TROPICAL DRY ZONE

Red-naped Ibis	<i>Pseudibis papillosa</i>
White-eyed Buzzard	<i>Butastur teesa</i>
Rain Quail	<i>Coturnix coromandelica</i>
Jungle Bush-quail	<i>Perdica asiatica</i>
Indian Peafowl	<i>Pavo cristatus</i>
Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
Yellow-legged Green-pigeon	<i>Treron phoenicoptera</i>
Plum-headed Parakeet	<i>Psittacula cyanocephala</i>
Sirkeer Malkoha	<i>Phaenicophaeus leschenaultii</i>
Indian Nightjar	<i>Caprimulgus asiaticus</i>
Indian Grey Hornbill	<i>Ocyrocus birostris</i>
Yellow-fronted Pied Woodpecker	<i>Dendrocopos mahrattensis</i>
Black-rumped Flameback	<i>Dinopium benghalense</i>
Black-headed Cuckooshrike	<i>Coracina melanoptera</i>
Small Minivet	<i>Pericrocotus cinnamomeus</i>
White-bellied Minivet	<i>Pericrocotus erythropygius</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Jungle Babbler	<i>Turdoides striatus</i>
Jungle Prinia	<i>Prinia sylvatica</i>
Ashy Prinia	<i>Prinia socialis</i>
White-browed Fantail	<i>Rhipidura aureola</i>
Brahminy Starling	<i>Sturnus pagodarum</i>
Bank Myna	<i>Acridotheres ginginianus</i>
White-bellied Drongo	<i>Dicurus caeruleus</i>

about 34%, miscellaneous forest occupies 61.55%, and Teak covers 4.4% (Gabrial 1995). Teak has been introduced into the area by the Forest Department.

These twin PAs have been combined into one and notified as a Tiger Reserve. The core area of this TR is proposed as an Eco-Sensitive Zone (ESZ).

AVIFAUNA

More than 125 bird species have been recorded in the reserve (A.M.K. Bharos, *pers. comm.* 2003) but there could be many more. No systematic study on avifauna has been done in this IBA, which lies in Biome 11 and represents the Indo-Malayan Tropical Dry Zone. There are not many threatened or endemic species in the site which has been selected on the basis of the presence of the Vulnerable Green Munia *Amandava formosa*, which has suffered severe decline due to habitat destruction and illegal trapping (BirdLife International 2001). Udanti and Sitanadi WLSs could form its stronghold, where its chances of long-term survival are good. Moreover, as they are protected areas, illegal trapping for bird trade could be controlled. Once the Green Munia's exact habitat requirements are known through research, habitat manipulation could be attempted in this IBA to increase habitat availability.

The two Critically Endangered *Gyps* species of vultures, White-rumped *Gyps bengalensis* and Long-billed *Gyps indicus*, are quite widespread even now. Out of the 59 Biome 11 species listed by BirdLife International (2001), 27 have been seen in this IBA.

In November 2013, a Malabar Pied Hornbill *Anthracoceros*



Udanti River flowing through the forest is a lifeline for very large number of wild animals, such as the Wild Buffalo

coronatus was sighted and identified by scientists of the Wildlife Trust of India on the fringes of the reserve. This is the first authentic sighting of this species in this IBA in recent years. It is more commonly reported from Bastar area, particularly in the forests of Tirathgarh waterfall area. Other sites where the species has been sighted recently are Sirpur in Mahasamund district and Achanakmar Tiger Reserve in Bilaspur district.

The White-bellied Woodpecker *Dryocopus javensis* is still seen in good numbers in mature forest.

OTHER KEY FAUNA

Along with the Indravati Tiger Reserve (another IBA), Udanti and Sitanadi are important refuges for the last few herds of the Endangered Wild Buffalo. The Tiger *Panthera tigris* and Leopard *P. pardus* are at the top of the food pyramid of fauna. Indian Wild Dog *Cuon alpinus* is another important carnivore, which mainly hunts Chital *Axis axis*, Sambar *Cervus unicolor*, Nilgai *Boselaphus tragocamelus*, Four-horned Antelope *Tetracerus quadricornis*, Chinkara *Gazella bennettii*, Barking Deer or Indian Muntjak *Muntiacus muntjak*, Wild Boar *Sus scrofa*, and young Gaur *Bos gaurus*. Sloth Bear *Melursus ursinus* is quite common, and often mauls villagers. Smaller carnivores include the Jungle Cat *Felis chaus*, Striped Hyaena *Hyaena hyaena*, Grey Wolf *Canis lupus*, and Golden Jackal *Canis aureus*. Not much is known about the reptilian and amphibian fauna of this IBA.

The population of Wild Buffalo is nine only, with one female which is kept in an enclosure for breeding, where it has given birth to a third male calf in succession. Two male calves that have now become adults are proposed to be released in forest.

LAND USE

- Nature conservation and research
- Human settlement
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Livestock grazing
- Forest fires
- Mining

Udanti Wildlife Sanctuary was mainly constituted to protect the remnant populations of the Wild Buffalo. According to the records of the Udanti Forest Department, a total of 78 animals are found. Kotwal *et al.* (2002) claim



AKHILESH BHAROS

The dry deciduous forest becomes green with the onset of monsoon and provide habitat for breeding of birds

to have seen 27 animals in 6 herds.

There are about 50 villages with more than 20,000 human population and more than 10,000 cattle. Over 50% of Udanti is burnt every year during summer in forest fires set by villagers (Kotwal *et al.* 2002). This poses a grave threat to all wildlife, especially ground-nesting birds which generally breed during summer. However, the long-term and irreversible threat comes from plans for diamond mining. B. Vijaykumar Chhattisgarh Exploration (BVCE) Co. has already dug out samples from Deobhog area including the Udanti Wildlife Sanctuary, and has also set up its own Kimberlite sample processing laboratory near Mainpur village. This was despite the refusal of the Ministry of Environment and Forests, Government of India to grant permission for mining inside the sanctuary. No diamond mining has started so far inside the IBA.

Overall the forest cover and other conditions have not much changed in the last 10 years.

KEY CONTRIBUTOR

A.M.K. Bharos

KEY REFERENCES

- BirdLife International (2001) *Threatened Birds of Asia. The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Gabrial, M.S. (1995) Working Plan of Udanti Wildlife Sanctuary. Wildlife Division, Raipur.
- Kotwal, P.C., Naik, M.L. and Mishra, R.P. (2002) Indian Wild Buffalo (*Bubalus bubalis*) an endangered species: Habitat and Diurnal Activity Pattern in Udanti Wildlife Sanctuary. *Cheetal* 41(3&4): 19–28.

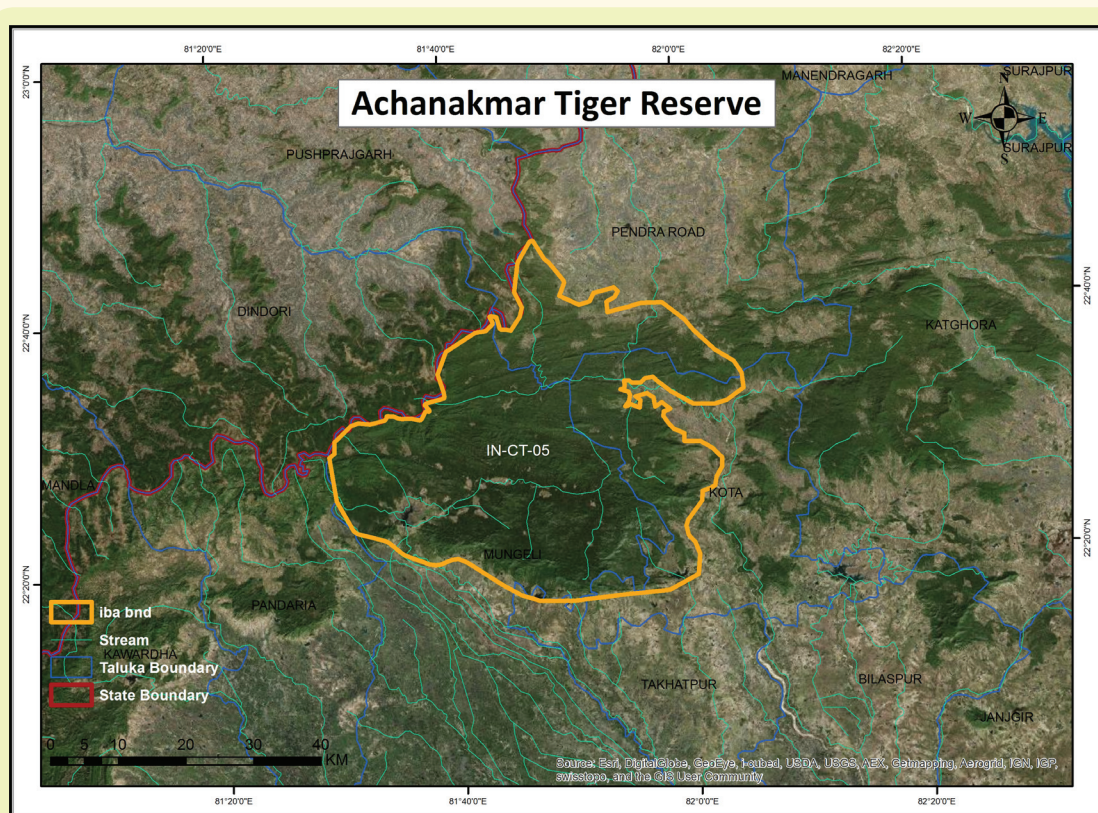
ACHANAKMAR TIGER RESERVE AND MANIYARI RESERVOIR

IN-CH-05

IBA Site Code	: IN-CH-05	Rainfall	: 1,000–1,250 mm
State	: Chhattisgarh	Temperature	: Mean 25 °C
District	: Bilaspur	Biogeographic Zone	: Deccan Peninsula
Coordinates	: 22° 24' to 23° 35' N, 81° 34' to 80° 55' E	Habitats	: Moist Sal and Moist Deciduous Forest, Northern Tropical Dry Deciduous Forest, Dry Peninsular Sal Forest, Bamboo Brakes
Ownership	: State Government		
Area	: 557.55 sq. km		
Altitude	: 362–720 msl		

IBA CRITERIA: A1 (Threatened species), A3 (Biome 11: Indo-Malayan Tropical Dry Zone)

PROTECTION STATUS: Wildlife Sanctuary, notified in February, 1975; Tiger Reserve, declared in February, 2009.



GENERAL DESCRIPTION

The Achanakmar Wildlife Sanctuary, now a tiger reserve, is named after Achanakmar, an old and prominent forest village of the area. The sanctuary was notified under Sec. 18(1) of the Wildlife (Protection) Act, 1972 (* 53 of 1972) in February, 1975. The site comes under Bilaspur Forest Division and is situated on the eastern flank of Maikal Range of the Satpura hill range (Tiwari 1997).

The reserve is bounded by Motinala in the north, and common boundary line of Bilaspur and North Bilaspur forest division in the east. Railakhai nullah and Maniari

river flow up to tri-junction points of compartments 106, 199, and 120 to the south.

The IBA receives rainfall from the southwest monsoon. Showers also occur during January and February. On the whole, the area receives a fair amount of rainfall annually and water supply is adequate, except for a short period from late May to early June when water is available only in pools, nullahs, waterholes, man-made tanks and wells, and in Maniari river.

The site is approachable in all seasons. The state highway from Bilaspur to Shahdol via Amarkantak passes through

the middle of this sanctuary. The famous Amarkantak, the source of the Narmada and Sone rivers, is only 28 km from the western boundary of the tiger reserve, and can be accessed by a forest road. The terrain is mostly hilly with occasional small plateaus and shallow valleys.

There are numerous perennial and seasonal streams, all tributaries of the Mahanadi river. Summer is very hot, and most of these streams dry out. The Forest Department has created some waterholes, where most of the wildlife concentrates in summer.

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyp bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
-----------------	------------------------------

NEAR THREATENED

Malabar Pied Hornbill	<i>Anthraceroceros coronatus</i>
-----------------------	----------------------------------

BIOME 11: INDO-MALAYAN TROPICAL DRY ZONE

Red-naped Ibis	<i>Pseudibis papillosa</i>
White-rumped Vulture	<i>Gyps bengalensis</i>
White-eyed Buzzard	<i>Butastur teesa</i>
Rain Quail	<i>Coturnix coromandelica</i>
Rock Bush-quail	<i>Perdica argoondah</i>
Painted Bush-quail	<i>Perdica erythrorhyncha</i>
Indian Peafowl	<i>Pavo cristatus</i>
Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
Plum-headed Parakeet	<i>Psittacula cyanocephala</i>
Sirkeer Malkoha	<i>Phaenicophaeus leschenaultii</i>
Mottled Wood-owl	<i>Strix ocellata</i>
Indian Nightjar	<i>Caprimulgus asiaticus</i>
Indian Grey Hornbill	<i>Ocyroceros birostris</i>
Brown-headed Barbet	<i>Megalaima zeylanica</i>
Lineated Barbet	<i>Megalaima lineata</i>
Yellow-crowned Woodpecker	<i>Dendrocopos mahrattensis</i>
Black-rumped Flameback	<i>Dinopium benghalense</i>
Indian Bushlark	<i>Mirafra erythroptera</i>
Bengal Bushlark or	<i>Mirafra assamica</i>
Rufous-winged Bushlark	
Ashy-crowned Sparrow-lark	<i>Eremopterix grisea</i>
Sykes's Crested Lark or	<i>Galerida deva</i>
Sykes's Lark	
Black-headed Cuckooshrike	<i>Coracina melanoptera</i>
Small Minivet	<i>Pericrocotus cinnamomeus</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Indian Robin	<i>Saxicoloides fulicatus</i>
Indian Chat or Brown Rock Chat	<i>Cercomela fusca</i>
Jungle Babbler	<i>Turdoides striatus</i>
Jungle Prinia	<i>Prinia sylvatica</i>
Ashy Prinia	<i>Prinia socialis</i>
White-browed Fantail	<i>Rhipidura aureola</i>
Grey-headed Starling or	<i>Sturnus malabaricus</i>
Chestnut-tailed Starling	
Brahminy Starling	<i>Sturnus pagodarum</i>
White-bellied Drongo	<i>Dicrurus caerulescens</i>

On the periphery of the reserve is Maniyari Reservoir, popularly known as Khudiya Tank which attracts large numbers of waterfowl in winter. However, a detailed bird inventory has not been done.

AVIFAUNA

Nearly 200 bird species have been recorded (A.M.K Bharos, pers. comm. 2014). The site lies in Biome 11 (Indo-Malayan Tropical Dry Zone) and harbours its typical birdspecies. Out of the 59 Biome 11 species (BirdLife International, undated), 25 have been seen here, most of them quite common and widespread. Two Critically Endangered vulture species have been recorded here. This site was selected as an IBA mainly due to the presence of a small nesting colony of Long-billed Vulture *Gyps indicus*, reported from Aurapani area (22.417 N, 81.850 E) in the northwest side of the reserve. During a visit in December, 2011, two chicks were seen in the nest. The site was revisited on April 4, 2015 and five chicks and 20 adults were counted. The vulture population here is around 25 birds. Occasionally, White-rumped Vulture *Gyps bengalensis* is sighted, particularly in the Lamhni Range.

Malabar Pied Hornbill *Anthraceroceros coronatus*, listed as Near Threatened by IUCN, is occasionally seen. Other interesting birds recorded from this IBA are Black Stork *Ciconia nigra*, White-bellied Woodpecker *Dryocopus javensis*, and Lesser Adjutant *Leptoptilos javanicus* which is listed as Vulnerable by IUCN.

OTHER KEY FAUNA

Achanakmar has the typical biodiversity of central Indian Dry Deciduous Forest, with its complement of well-known large mammals such as the Tiger *Panthera tigris*, Leopard *P. pardus*, Gaur *Bos gaurus*, Sloth Bear *Melursus ursinus*, Chital *Axis axis*, Sambar *Rusa unicolor*, Four-horned Antelope *Tetracerus quadricornis*, Barking Deer or Indian



There is small nesting colony of about 25 Long-billed Vultures *Gyps indicus* in this IBA

AKHILESH BHAROS



AKHILESH BHAROS

As the summer is very hot and dry the forest department has created many waterholes in this Tiger Reserve

Muntjac *Muntiacus muntjak*, and Wild Boar *Sus scrofa*. This area is famous for its population of Gaur. Medium-sized carnivores present are Striped Hyaena *Hyaena hyaena*, Golden Jackal *Canis aureus*, and Indian Wild Dog *Cuon alpinus*. Jungle Cat *Felis chaus*, Caracal *Caracal caracal*, and Indian Ratel or Honey Badger *Mellivora capensis* represent the small carnivores. Not much work has been done on reptiles, but Indian Rock Python *Python molurus* and Indian Cobra *Naja naja* are found here.

LAND USE

- Nature conservation and research
- Tourism and recreation
- Grazing

THREAT AND CONSERVATION ISSUES

- Livestock grazing
- Human-animal conflicts
- Disturbance to birds
- Tourism
- Forest fires

There are 25 forest villages inside the sanctuary, of which 10 are located in the area presently under the management of the State Forest Development Corporation. Their total population is c. 10,000. The livestock numbers c. 8,500, there

are cattle camps almost everywhere which share the forest and its produce with wildlife, resulting in disturbance to the natural ecosystems. Human-animal conflict is common, especially involving Sloth Bear and Leopard. The site is a major attraction for tourists and pilgrims, who further degrade the ecological conditions by littering and noise.

Forest fires, mainly man-made, also pose a threat to the site. These fires are started to facilitate the collection of Mahua flowers and to obtain Tendu leaves. Locals are allowed to collect minor forest produce. Sal seeds and Tendu leaves are collected from all over the sanctuary. Unfortunately, the time of their collection coincides with the breeding season of many resident birds, and causes disturbance. Traditional hunting by tribals, prevalent in many other sanctuaries, is not a big problem here.

KEY CONTRIBUTOR

A.M.K. Bharos.

KEY REFERENCE

- BirdLife International (undated) Important Bird Areas (IBAs) in Asia: Project Briefing Book. BirdLife International, Cambridge, UK. Unpubl.
- Tiwari, S.K. (1997) *Wildlife Sanctuaries of Madhya Pradesh: State of Biodiversity and Human Infringement*. APH Publishing Corporation, New Delhi. Pp. 53.

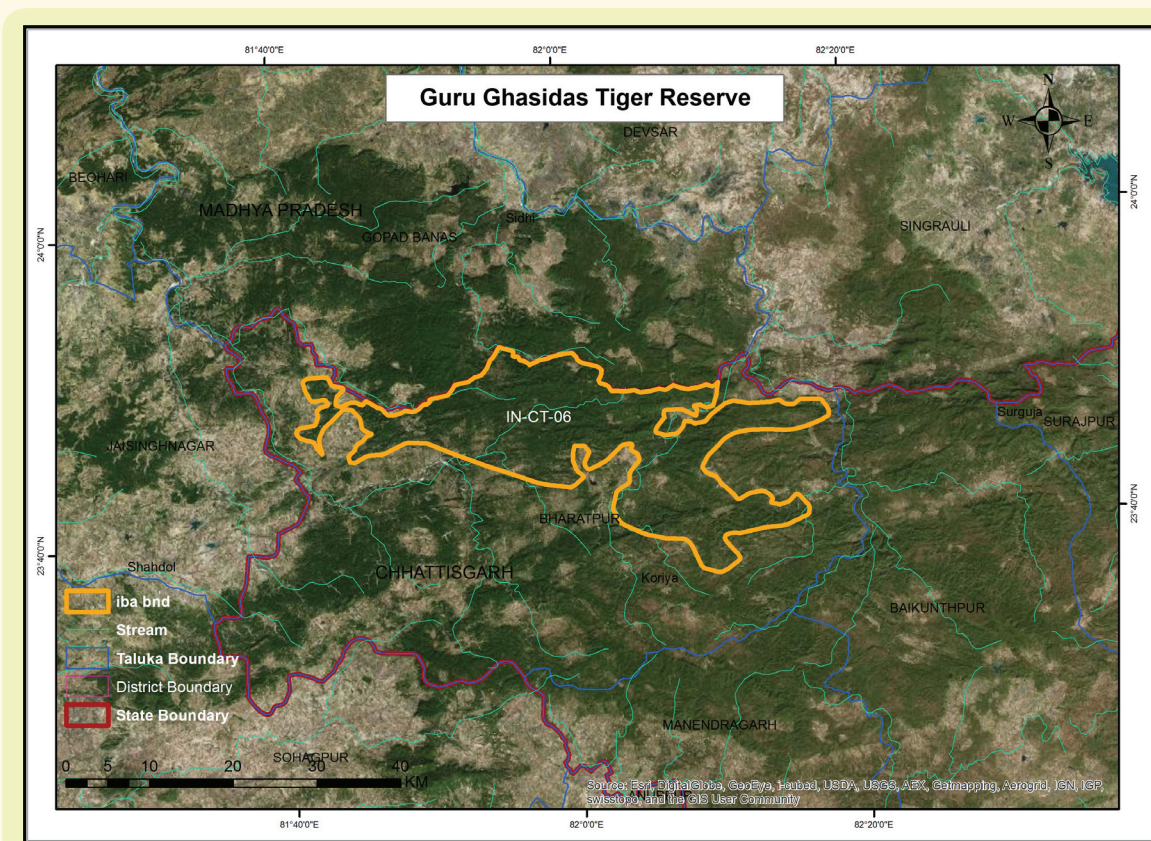
GURU GHASIDAS TIGER RESERVE

IN-CH-06

IBA Site Code	: IN-CH-06	Altitude	: 700–1600 msl
State	: Chhattisgarh	Rainfall	: 1,000–1,100 mm
District	: Koriya	Temperature	: 8 °C to 49 °C
Coordinates	: 23° 53' 7"N, 82° 3' 19" E	Biogeographic Zone	: Deccan
Ownership	: State Government	Habitats	: Tropical Dry Deciduous Forest, Tropical Moist Deciduous Forest, Wetland
Area	: 1,44,000 ha		

IBA CRITERIA: A1 (Threatened species), A3 (Biome 11: Indo-Malayan Tropical Dry Zone)

PROTECTION STATUS: Originally part of Sanjay National Park, Madhya Pradesh, established 1981. Subsequent to the creation of Chhattisgarh state, the area in Chhattisgarh was named Guru Ghasidas Tiger Reserve in 2012.



GENERAL DESCRIPTION

The Guru Ghasidas Tiger Reserve was originally a part of the Sanjay Wildlife Sanctuary and later Sanjay National Park in Madhya Pradesh which was established in 1981. After the creation of the Chhattisgarh State, the area in Chhattisgarh was named as Guru Ghasidas National Park to commemorate the state's Satnami movement reformer Guru Ghasidas. In 2012 the Guru Ghasidas National Park was notified as a Tiger Reserve. The Guru Ghasidas Tiger Reserve was originally a part of the Sanjay Wildlife Sanctuary and later Sanjay National Park in Madhya

Pradesh which was established in 1981. After the creation of the Chhattisgarh State, the area in Chhattisgarh was named as Guru Ghasidas National Park to commemorate the state's Satnami movement reformer Guru Ghasidas.

In 2012 the Guru Ghasidas National Park was notified as a Tiger Reserve. Its hilly terrain is mostly covered with Tropical Dry Deciduous and Moist Deciduous Forest, interspersed with rivers and streams. Several perennial rivers originate from this Protected Area (PA).

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

ENDANGERED

Egyptian Vulture	<i>Neophron percnopterus</i>
Black-bellied Tern	<i>Sterna acuticauda</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Asian Woollyneck	<i>Ciconia episcopus</i>
Black-headed Ibis	<i>Threskiornis melanocephalus</i>
Grey-headed Fish-eagle	<i>Ichthyophaga ichthyæetus</i>
Red-headed Falcon	<i>Falco chicquera</i>
River Tern	<i>Sterna aurantia</i>
Alexandrine Parakeet	<i>Psittacula eupatria</i>
Malabar Pied Hornbill	<i>Anthraceroceros coronatus</i>

BIOME 11: INDO MALAYAN TROPICAL DRY ZONE

Red-naped Ibis	<i>Pseudibis papillosa</i>
White-rumped Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>
White-eyed Buzzard	<i>Buteo teesa</i>
Red-necked Falcon	<i>Falco chicquera</i>
Rain Quail	<i>Coturnix coromandelica</i>
Indian Peafowl	<i>Pavo cristatus</i>
Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
Yellow-footed Green-pigeon	<i>Treron phoenicopterus</i>
Plum-headed Parakeet	<i>Psittacula cyanocephala</i>
Sirkeer Malkoha	<i>Phaenicophaeus leschenaultii</i>
Mottled Wood-owl	<i>Strix ocellata</i>
Indian Nightjar	<i>Caprimulgus asiaticus</i>
Indian Grey Hornbill	<i>Ocyrocus birostris</i>
Brown-headed Barbet	<i>Megalaima zeylanica</i>
Yellow-crowned Woodpecker	<i>Dendrocopos mahrattensis</i>
Black-rumped Flameback	<i>Dinopium bengalense</i>
Indian Lark	<i>Mirafra erythroptera</i>
Rufous-winged Lark	<i>Mirafra assamica</i>
Ashy-crowned Sparrow-lark	<i>Eremopterix grisea</i>
Tawny Lark	<i>Galerida deva</i>
Black-headed Cuckooshrike	<i>Coracina melanoptera</i>
Small Minivet	<i>Pericrocotus cinnamomeus</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Indian Robin	<i>Saxicoloides fulicatus</i>
Jungle Babbler	<i>Turdoides striata</i>
Jungle Prinia	<i>Prinia sylvatica</i>
Ashy Prinia	<i>Prinia socialis</i>
White-browed Fantail	<i>Rhipidura aureola</i>
Brahminy Starling	<i>Sturnus pagodarum</i>
White-bellied Drongo	<i>Dicrurus caerulescens</i>

IN-CH-06

AVIFAUNA

Chakraborty (2008) prepared an inventory of the avifaunal diversity of Guru Ghasidas National Park (GGNP) and reported 125 species. In a study by A.M.K. Bharos (*pers. comm.* 2014) from July 2011 to December 2014, 105 new species were added. Thus the checklist increased to 230 species. Both White-rumped *Gyps bengalensis* and Long-billed *G. indicus* Vultures are found here in small numbers. In May 2014, two Long-billed Vultures were seen, and their white droppings on Balamgarh cliffs (23° 32' 02" N, 82° 31' 27" E; altitude 1,100 msl) were seen at four locations. Up to 12 Long-billed Vultures are found here. Four Egyptian Vultures *Neophron percnopterus* were also found in the



AKHILESH BHAROS

The hilly terrain mostly covered with Tropical Dry Deciduous and Moist Deciduous forest which provides nesting sites. The craggy hill cliffs are favourite perches for Long-billed Vultures *Gyps indicus*



Guru Ghasidas Tiger Reserve was originally a part of Sanjay National Park. Its Tropical Dry Deciduous, streams and wetlands harbour nearly 230 birds species including many globally threatened species

vicinity at the same time. Another site where old dropping marks were noticed in January, 2014 was Kherakheda cliffs (23° 38' 22" N, 82° 24' 48" E; altitude 1,540 msl). Nawagaon hills, about 5 km along the river Neor inside the PA, is another area where eight Long-billed Vultures were reported in March, 2014. Dropping marks were seen on the cliffs (23° 47' 28" N, 82° 06' 39" E), indicating recent breeding.

Guru Ghasidas Tiger Reserve is a fine example of Biome 11(Indo-Malayan Tropical Dry Zone). Out of 59 species of this biome, 32 have been reported till now from this IBA. The forest cover is largely intact. This is proved by the presence of nine species of woodpeckers, seven species of cuckooshrikes and minivets, eight species of owls, and 14 species of raptors.

OTHER KEY FAUNA

Some of the mammals sighted regularly in this IBA are Tiger *Panthera tigris*, Leopard *P. pardus*, Gaur *Bos gaurus*, Sambar *Rusa unicolor*, Spotted Deer *Axis axis*, Indian Muntjac *Muntiacus muntjak*, Golden Jackal *Canis aureus*, Indian Fox *Vulpes bengalensis*, Four-horned Antelope *Tetracerus quadricornis*, Indian Wild Dog *Cuon alpinus*,

Striped Hyaena *Hyaena hyaena*, and Sloth Bear *Melursus ursinus*. Chinkara *Gazella bennettii* has been recently sighted and photographed within the park area.

LAND USE

- Forestry
- Agriculture

THREAT AND CONSERVATION ISSUES

Illegal felling of trees and occasional poaching cases come to the notice of the Wildlife Department. Crop damage by wild animals is another issue that creates human-animal conflict in this IBA.

KEY CONTRIBUTORS

A.M.K. Bharos, Abinash Parida

KEY REFERENCE

Chakraborty, R. (2008) Vertebrate Fauna of Kangerghati, Guru Ghasidas and Sanjay National Park (Madhya Pradesh and Chhattisgarh): Aves. In: *Conservation Area Series*. 36: 69–180. Published by the Director, Zoological Survey of India, Kolkata.